SEQUENCE LISTING

<110> Pfizer Inc.
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      Maw, Graham Nigel
      Wayman, Christopher Peter

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Cys Gly Gly Trp Leu Lys Arg Asn Val Ile Pro Glu Thr Ser Ser Arg
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Tyr Gly Asn Phe Asp Ile Leu Arg Asp Glu Leu Glu Val Val Leu Lys
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Ala Lys Ala Leu Tyr Arg Ser Cys Ile Asn Glu Ser Ala Ile Asp Ser
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Pro Val Ala Thr Glu Asn Trp Glu Gln Lys Tyr Gly Ala Ser Trp Thr
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Ala Glu Lys Ala Ile Ala Gln Leu Asn Ser Lys Tyr Gly Lys Lys Val
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Leu Ile Asn Leu Phe Val Gly Thr Asp Asp Lys Asn Ser Val Asn His
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Phe Met Ile Ser Val Ala Arg Leu Ile Arg Gln Glu Glu Arg Leu Pro
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Ile Asp Glu Asn Gln Leu Ala Leu Glu Met Asn Lys Val Met Glu Leu
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Asn Ala Phe Arg Lys Ala Leu Tyr Gly Thr Thr Ser Glu Thr Ala Thr
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Trp Arg Arg Cys Ala Asn Tyr Val Asn Gly Asn Met Glu Asn Ala Val
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Gly Arg Leu Tyr Val Glu Ala Ala Phe Ala Gly Glu Ser Lys His Val
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Val Glu Asp Leu Ile Ala Gln Ile Arg Glu Val Phe Ile Gln Thr Leu
        435             440             445

Asp Asp Leu Thr Trp Met Asp Ala Glu Thr Lys Lys Arg Ala Glu Glu
    450             455             460

Lys Ala Leu Ala Ile Lys Glu Arg Ile Gly Tyr Pro Asp Asp Ile Val
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Ser Asn Asp Asn Lys Leu Asn Asn Glu Tyr Leu Glu Leu Asn Tyr Lys
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Glu Asp Glu Tyr Phe Glu Asn Ile Ile Gln Asn Leu Lys Phe Ser Gln
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Ser Lys Gln Leu Lys Lys Leu Arg Glu Lys Val Asp Lys Asp Glu Trp
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Gln Gln Ser Asn Ser Leu Asn Tyr Gly Gly Ile Gly Met Val Ile Gly
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His Glu Ile Thr His Gly Phe Asp Asp Asn Gly Arg Asn Phe Asn Lys
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Asp Gly Asp Leu Val Asp Trp Trp Thr Gln Gln Ser Ala Ser Asn Phe
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Lys Glu Gln Ser Gln Cys Met Val Tyr Gln Tyr Gly Asn Phe Ser Trp
    610   615   620

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Gly Thr Tyr Arg Pro Glu Tyr Ala Val Asn Ser Ile Lys Thr Asp Val
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Ala Val Tyr Ile Asp Glu Thr Arg Arg Leu Leu Asp Thr Glu Asp Glu
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Leu Ser Asp Ile Gln Thr Asp Ser Val Pro Ser Glu Val Arg Asp Trp
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Leu Ala Ser Thr Phe Thr Arg Lys Met Gly Met Thr Lys Lys Lys Pro
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Glu Glu Lys Pro Lys Phe Arg Ser Ile Val His Ala Val Gln Ala Gly
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Ile Phe Val Glu Arg Met Tyr Arg Lys Thr Tyr His Met Val Gly Leu
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Lys Phe Met Ile Tyr Glu Leu Phe Thr Arg Tyr Asp Leu Ile Asn Arg
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Phe Lys Ile Pro Val Ser Cys Leu Ile Thr Phe Ala Glu Ala Leu Glu
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Val Gly Tyr Ser Lys Tyr Lys Asn Pro Tyr His Asn Leu Ile His Ala
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Met His Trp Leu Thr Glu Leu Glu Ile Leu Ala Met Val Phe Ala Ala
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Ala Ile His Asp Tyr Glu His Thr Gly Thr Thr Asn Asn Phe His Ile
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Gln Thr Arg Ser Asp Val Ala Ile Leu Tyr Asn Asp Arg Ser Val Leu
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Glu Asn His His Val Ser Ala Ala Tyr Arg Leu Met Gln Glu Glu Glu
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Met Asn Ile Leu Ile Asn Leu Ser Lys Asp Asp Trp Arg Asp Leu Arg
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Asn Leu Val Ile Glu Met Val Leu Ser Thr Asp Met Ser Gly His Phe
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Asp Arg Ala Lys Thr Met Ser Leu Ile Leu His Ala Ala Asp Ile Ser
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His Pro Ala Lys Ser Trp Lys Leu His Tyr Arg Trp Thr Met Ala Leu
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Met Glu Glu Phe Phe Leu Gln Gly Asp Lys Glu Ala Glu Leu Gly Leu
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Pro Phe Ser Pro Leu Cys Asp Arg Lys Ser Thr Met Val Ala Gln Ser
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Gln Ile Gly Phe Ile Asp Phe Ile Val Glu Pro Thr Phe Ser Leu Leu
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Thr Asp Ser Thr Glu Lys Ile Val Ile Pro Leu Ile Glu Glu Ala Ser
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Lys Ala Glu Thr Ser Ser Tyr Val Ala Ser Ser Ser Thr Thr Ile Val
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Gly Leu His Ile Ala Asp Ala Leu Arg Arg Ser Asn Thr Lys Gly Ser
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                85   90   95

Pro Pro His Glu Leu Pro Gln Glu Gly Lys Val Arg Glu Ala Ile Ile
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Ser Gln Lys Arg Leu Gly Cys Asn Gly Leu Gly Phe Ser Asp Leu Pro
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Gly Lys Pro Leu Ala Arg Leu Val Ala Pro Leu Ala Pro Asp Thr Gln
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Val Leu Val Met Pro Leu Ala Asp Lys Glu Ala Gly Ala Val Ala Ala
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Val Ile Leu Val His Cys Gly Gln Leu Ser Asp Asn Glu Glu Trp Ser
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Pro Pro Glu Gly Thr Ala Glu Asp Gln Lys Gly Gly Ala Ala Tyr Thr
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Gln Leu Ser Cys Lys Val Ile Gly Asp Lys Val Leu Gly Glu Glu Val
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Ser Phe Pro Leu Thr Gly Cys Leu Gly Gln Val Val Glu Asp Lys Lys
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Ser Ile Gln Leu Lys Asp Leu Thr Ser Glu Asp Val Gln Gln Leu Gln
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Ser Met Leu Gly Cys Glu Leu Gln Ala Met Leu Cys Val Pro Val Ile
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Leu Glu Gly Asp Leu Phe Thr Asp Glu Asp Glu His Val Ile Gln His
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Cys Phe His Tyr Thr Ser Thr Val Leu Thr Ser Thr Leu Ala Phe Gln
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Lys Asn Leu Phe Thr His Leu Asp Asp Val Ser Val Leu Leu Gln Glu
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Ile Ile Thr Glu Ala Arg Asn Leu Ser Asn Ala Glu Ile Cys Ser Val
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Phe Leu Leu Asp Gln Asn Glu Leu Val Ala Lys Val Phe Asp Gly Gly
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Ile Ala Gly His Val Ala Thr Thr Gly Gln Ile Leu Asn Ile Pro Asp
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Phe Arg Thr Arg Asn Ile Leu Cys Phe Pro Ile Lys Asn Glu Asn Gln
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Glu Val Ile Gly Val Ala Glu Leu Val Asn Lys Ile Asn Gly Pro Trp
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Ile Leu Asn Thr His Gly Cys Asn Ile Phe Asp His Phe Ser Arg Lys
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Asp Tyr Gln Arg Met Leu Asp Leu Met Arg Asp Ile Ile Leu Ala Thr
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Asp Arg Glu Lys Ala Tyr Ile Pro Glu Leu Gln Ile Ser Phe Met Glu
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His Ile Ala Met Pro Ile Tyr Lys Leu Leu Gln Asp Leu Phe Pro Lys
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<213> Homo Sapiens

<400> 7

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Pro Asp Asn Pro Gly Glu Asp Ala Pro Ala Glu Asp Met Ala Arg Tyr
            35                  40                  45

Tyr Ser Ala Leu Arg His Tyr Ile Asn Leu Ile Thr Arg Gln Arg Tyr
    50                  55                  60

Gly Lys Arg Ser Ser Pro Glu Thr Leu Ile Ser Asp Leu Leu Met Arg
65                  70                  75                  80

Glu Ser Thr Glu Asn Val Pro Arg Thr Arg Leu Glu Asp Pro Ala Met
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Trp
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Asn Phe Ser Glu Lys Asn Ala Gln Leu Leu Ala Phe Glu Asn Asp Asp
                20                  25                  30


Cys His Leu Pro Leu Ala Met Ile Phe Thr Leu Ala Leu Ala Tyr Gly
            35                  40                  45


Ala Val Ile Ile Leu Gly Val Ser Gly Asn Leu Ala Leu Ile Ile Ile
        50                  55                  60


Ile Leu Lys Gln Lys Glu Met Arg Asn Val Thr Asn Ile Leu Ile Val
65                  70                  75                  80


Asn Leu Ser Phe Ser Asp Leu Leu Val Ala Ile Met Cys Leu Pro Phe
                85                  90                  95


Thr Phe Val Tyr Thr Leu Met Asp His Trp Val Phe Gly Glu Ala Met
                100                 105                 110


Cys Lys Leu Asn Pro Phe Val Gln Cys Val Ser Ile Thr Val Ser Ile
            115                 120                 125


Phe Ser Leu Val Leu Ile Ala Val Glu Arg His Gln Leu Ile Ile Asn
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Page 17

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Pro Arg Gly Trp Arg Pro Asn Asn Arg His Ala Tyr Val Gly Ile Ala
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Val Ile Trp Val Leu Ala Val Ala Ser Ser Leu Pro Phe Leu Ile Tyr
                165             170                 175

Gln Val Met Thr Asp Glu Pro Phe Gln Asn Val Thr Leu Asp Ala Tyr
            180             185                 190

Lys Asp Lys Tyr Val Cys Phe Asp Gln Phe Pro Ser Asp Ser His Arg
        195             200             205

Leu Ser Tyr Thr Thr Leu Leu Leu Val Leu Gln Tyr Phe Gly Pro Leu
    210             215             220

Cys Phe Ile Phe Ile Cys Tyr Phe Lys Ile Tyr Ile Arg Leu Lys Arg
225             230             235                 240

Arg Asn Asn Met Met Asp Lys Met Arg Asp Asn Lys Tyr Arg Ser Ser
            245             250             255

Glu Thr Lys Arg Ile Asn Ile Met Leu Leu Ser Ile Val Val Ala Phe
            260             265             270

Ala Val Cys Trp Leu Pro Leu Thr Ile Phe Asn Thr Val Phe Asp Trp
        275             280             285

Asn His Gln Ile Ile Ala Thr Cys Asn His Asn Leu Leu Phe Leu Leu
    290             295             300

Cys His Leu Thr Ala Met Ile Ser Thr Cys Val Asn Pro Ile Phe Tyr
305             310             315                 320

Gly Phe Leu Asn Lys Asn Phe Gln Arg Asp Leu Gln Phe Phe Phe Asn
            325             330             335

Phe Cys Asp Phe Arg Ser Arg Asp Asp Asp Tyr Glu Thr Ile Ala Met
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Ser Thr Met His Thr Asp Val Ser Lys Thr Ser Leu Lys Gln Ala Ser
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Pro Val Ala Phe Lys Lys Ile Asn Asn Asn Asp Asp Asn Glu Lys Ile
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<213>  Homo Sapiens

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                20                  25                  30


Val Pro Asp Pro Glu Pro Glu Leu Ile Asp Ser Thr Lys Leu Ile Glu
            35                  40                  45


Val Gln Val Val Leu Ile Leu Ala Tyr Cys Ser Ile Ile Leu Leu Gly
        50                  55                  60


Val Ile Gly Asn Ser Leu Val Ile His Val Val Ile Lys Phe Lys Ser
65                  70                  75                  80
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Met Arg Thr Val Thr Asn Phe Phe Ile Ala Asn Leu Ala Val Ala Asp
                85   90   95

Leu Leu Val Asn Thr Leu Cys Leu Pro Phe Thr Leu Thr Tyr Thr Leu
            100   105   110

Met Gly Glu Trp Lys Met Gly Pro Val Leu Cys His Leu Val Pro Tyr
        115   120   125

Ala Gln Gly Leu Ala Val Gln Val Ser Thr Ile Thr Leu Thr Val Ile
    130   135   140

Ala Leu Asp Arg His Arg Cys Ile Val Tyr His Leu Glu Ser Lys Ile
145   150   155   160

Ser Lys Arg Ile Ser Phe Leu Ile Ile Gly Leu Ala Trp Gly Ile Ser
            165   170   175

Ala Leu Leu Ala Ser Pro Leu Ala Ile Phe Arg Glu Tyr Ser Leu Ile
        180   185   190

Glu Ile Ile Pro Asp Phe Glu Ile Val Ala Cys Thr Glu Lys Trp Pro
        195   200   205

Gly Glu Glu Lys Ser Ile Tyr Gly Thr Val Tyr Ser Leu Ser Ser Leu
    210   215   220

Leu Ile Leu Tyr Val Leu Pro Leu Gly Ile Ile Ser Phe Ser Tyr Thr
225   230   235   240

Arg Ile Trp Ser Lys Leu Lys Asn His Val Ser Pro Gly Ala Ala Asn
            245   250   255

Asp His Tyr His Gln Arg Arg Gln Lys Thr Thr Lys Met Leu Val Cys
        260   265   270

Val Val Val Val Phe Ala Val Ser Trp Leu Pro Leu His Ala Phe Gln
    275   280   285

Leu Ala Val Asp Ile Asp Ser Gln Val Leu Asp Leu Lys Glu Tyr Lys
    290   295   300

Leu Ile Phe Thr Val Phe His Ile Ile Ala Met Cys Ser Thr Phe Ala
305   310   315   320

Asn Pro Leu Leu Tyr Gly Trp Met Asn Ser Asn Tyr Arg Lys Ala Phe
            325   330   335

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Leu Ser Ala Phe Arg Cys Glu Gln Arg Leu Asp Ala Ile His Ser Glu
            340                 345             350

Val Ser Val Thr Phe Lys Ala Lys Lys Asn Leu Glu Val Arg Lys Asn
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Ser Gly Pro Asn Asp Ser Phe Thr Glu Ala Thr Asn Val
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<213> Homo Sapiens

<400> 13

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                20   25   30

Tyr Lys Ser Ser Val Asp Asp Leu Gln Tyr Phe Leu Ile Gly Leu Tyr
        35   40   45

Thr Phe Val Ser Leu Leu Gly Phe Met Gly Asn Leu Leu Ile Leu Met
    50   55   60

Ala Leu Met Lys Lys Arg Asn Gln Lys Thr Thr Val Asn Phe Leu Ile
65   70   75   80

Gly Asn Leu Ala Phe Ser Asp Ile Leu Val Val Leu Phe Cys Ser Pro
                85   90   95

Phe Thr Leu Thr Ser Val Leu Leu Asp Gln Trp Met Phe Gly Lys Val
            100   105   110

Met Cys His Ile Met Pro Phe Leu Gln Cys Val Ser Val Leu Val Ser
        115   120   125

Thr Leu Ile Leu Ile Ser Ile Ala Ile Val Arg Tyr His Met Ile Lys
    130   135   140

His Pro Ile Ser Asn Asn Leu Thr Ala Asn His Gly Tyr Phe Leu Ile
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Ala Thr Val Trp Thr Leu Gly Phe Ala Ile Cys Ser Pro Leu Pro Val
                165   170   175

Phe His Ser Leu Val Glu Leu Gln Glu Thr Phe Gly Ser Ala Leu Leu
            180   185   190

Ser Ser Arg Tyr Leu Cys Val Glu Ser Trp Pro Ser Asp Ser Tyr Arg
        195   200   205

Ile Ala Phe Thr Ile Ser Leu Leu Leu Val Gln Tyr Ile Leu Pro Leu
    210   215   220

Val Cys Leu Thr Val Ser His Thr Ser Val Cys Arg Ser Ile Ser Cys
225   230   235   240

Gly Leu Ser Asn Lys Glu Asn Arg Leu Glu Glu Asn Glu Met Ile Asn
                    245   250   255

Leu Thr Leu His Pro Ser Lys Lys Ser Gly Pro Gln Val Lys Leu Ser
                    260   265   270

Gly Ser His Lys Trp Ser Tyr Ser Phe Ile Lys Lys His Arg Arg Arg
            275   280   285

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    290   295   300

Gln Glu Asn His Ser Arg Ile Leu Pro Glu Asn Phe Gly Ser Val Arg
305   310   315   320

Ser Gln Leu Ser Ser Ser Ser Lys Phe Ile Pro Gly Val Pro Thr Cys
                325   330   335

Phe Glu Ile Lys Pro Glu Glu Asn Ser Asp Val His Glu Leu Arg Val
            340   345   350

Lys Arg Ser Val Thr Arg Ile Lys Lys Arg Ser Arg Ser Val Phe Tyr
            355   360   365

Arg Leu Thr Ile Leu Ile Leu Val Phe Ala Val Ser Trp Met Pro Leu
    370   375   380

His Leu Phe His Val Val Thr Asp Phe Asn Asp Asn Leu Ile Ser Asn
385   390   395   400

Arg His Phe Lys Leu Val Tyr Cys Ile Cys His Leu Leu Gly Met Met
            405   410   415

Ser Cys Cys Leu Asn Pro Ile Leu Tyr Gly Phe Leu Asn Asn Gly Ile
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Lys Ala Asp Leu Val Ser Leu Ile His Cys Leu His Met
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<213> Homo Sapiens

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cagagaataa tactgctgcc actcggaatt ctgatttccc agtctgggat gactataaaa   120
                              Page 24

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gcagtgtaga tgacttacag tattttctga ttgggctcta tacatttgta agtcttcttg    180

gctttatggg gaatctactt attttaatgg ctctcatgaa aaagcgtaat cagaagacta    240

cggtaaactt cctcataggc aatctggcct tttctgatat cttggttgtg ctgttttgct    300

cacctttcac actgacgtct gtcttgctgg atcagtggat gtttggcaaa gtcatgtgcc    360

atattatgcc ttttcttcaa tgtgtgtcag ttttggtttc aactttaatt ttaatatcaa    420

ttgccattgt caggtatcat atgataaaac atcccatatc taataattta acagcaaacc    480

atggctactt tctgatagct actgtctgga cactaggttt tgccatctgt tctccccttc    540

cagtgtttca cagtcttgtg gaacttcaag aaacatttgg ttcagcattg ctgagcagca    600

ggtatttatg tgttgagtca tggccatctg attcatacag aattgccttt actatctctt    660

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gcagaagtat aagctgtgga ttgtccaaca aagaaaacag acttgaagaa aatgagatga    780

tcaacttaac tcttcatcca tccaaaaaga gtgggcctca ggtgaaactc tctggcagcc    840

ataaatggag ttattcattc atcaaaaaac acagaagaag atatagcaag aagacagcat    900

gtgtgttacc tgctccagaa agaccttctc aagagaacca ctccagaata cttccagaaa    960

actttggctc tgtaagaagt cagctctctt catccagtaa gttcatacca ggggtcccca    1020

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acaatcttat ttcaaatagg catttcaagt tggtgtattg catttgtcat ttgttgggca    1260

tgatgtcctg ttgtcttaat ccaattctat atgggtttct taataatggg attaaagctg    1320

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<210> 15
<211> 170
<212> PRT
<213> Homo Sapiens

<400> 15

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Met Asp Thr Arg Asn Lys Ala Gln Leu Leu Val Leu Leu Thr Leu Leu
1               5                   10                  15


Ser Val Leu Phe Ser Gln Thr Ser Ala Trp Pro Leu Tyr Arg Ala Pro
            20                  25                  30


Ser Ala Leu Arg Leu Gly Asp Arg Ile Pro Phe Glu Gly Ala Asn Glu
        35                  40                  45
```

```
Pro Asp Gln Val Ser Leu Lys Glu Asp Ile Asp Met Leu Gln Asn Ala
    50              55              60
```

```
Leu Ala Glu Asn Asp Thr Pro Tyr Tyr Asp Val Ser Arg Asn Ala Arg
65              70              75              80
```

```
His Ala Asp Gly Val Phe Thr Ser Asp Phe Ser Lys Leu Leu Gly Gln
            85              90              95
```

```
Leu Ser Ala Lys Lys Tyr Leu Glu Ser Leu Met Gly Lys Arg Val Ser
            100             105             110
```

```
Ser Asn Ile Ser Glu Asp Pro Val Pro Val Lys Arg His Ser Asp Ala
        115             120             125
```

```
Val Phe Thr Asp Asn Tyr Thr Arg Leu Arg Lys Gln Met Ala Val Lys
    130             135             140
```

```
Lys Tyr Leu Asn Ser Ile Leu Asn Gly Lys Arg Ser Ser Glu Gly Glu
145             150             155             160
```

```
Ser Pro Asp Phe Pro Glu Glu Leu Glu Lys
            165             170
```

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<210>  16
<211>  1511
<212>  DNA
<213>  Homo Sapiens

<400>  16
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ctcttctcac agacttcggc atggcctctt acagggcac cttctgctct caggttgggt     180
gacagaatac cctttgaggg agcaaatgaa cctgatcaag tttcattaaa agaagacatt     240
gacatgttgc aaaatgcatt agctgaaaat gacacaccct attatgatgt atccagaaat     300
gccaggcatg ctgatggagt tttcaccagt gacttcagta aactcttggg tcaactttct     360
gccaaaaagt accttgagtc tcttatggga aaacgtgtta gcagtaacat ctcagaagac     420
cctgtaccag tcaaacgtca ctcagatgca gtcttcactg acaactatac ccgccttaga     480
aaacaaatgg ctgtaaagaa atatttgaac tcaattctga atggaaagag gagcagtgag     540
ggagaatctc ccgactttcc agaagagtta gaaaaatgat gaaaagacc tttggagcaa     600
agctgatgac aacttcccag tgaattcttg aaggaaaatg atacgcaaca taattaaatt     660
ttagattcta cataagtaat tcaagaaaac aacttcaata tccaaaccaa ataaaaatat     720
tgtgttgtga atgttgtgat gtattctagc taatgtaata actgtgaagt ttacattgta     780
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aatagtattt gagagttcta aattttgtct ttaactcata aaaagcctgc aatttcatat   840

gctgtatatc ctttctaaca aaaaaatata ttttaatgat aagtaatgct aggttaatcc   900

aattatatga gacgttttg gaagagtagt aatagagcaa aattgatgtg tttatttata   960

gagtgtactt aactattcag gagagtagaa cagataatca gtgtgtctaa atttgaatgt   1020

taagcagatg gaatgctgtg ttaaataaac ctcaaatgt ctaagatagt aacaatgaag   1080

ataaaaagac attcttccaa aaagattttc agaaatatt atgtgtttcc atattttata   1140

ggcaacctt attttaatg gtgttttaaa aaatctcaaa tttggattgc taatcaccaa   1200

aggctctctc ctgatagtct ttcagttaag gagaacgacc cctgcttctg acactgaaac   1260

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tcaataataa atatttttgc cataatgact cagaatattg ctttggtcat atgagcttcc   1380

ttctgtgaaa tacattttgg agacacaact attttttccaa aataattta agaaatcaaa   1440

gagagaaaat aaagaccttg cttatgattg cagataaaaa aaaaaaaaa aaaaaaaaa   1500

aaaaaaaaa a                                                       1511
```

<210> 17
<211> 170
<212> PRT
<213> Homo Sapiens

<400> 17

```
Met Asp Thr Arg Asn Lys Ala Gln Leu Leu Val Leu Leu Thr Leu Leu
1               5                   10                  15


Ser Val Leu Phe Ser Gln Thr Ser Ala Trp Pro Leu Tyr Arg Ala Pro
                20                  25                  30


Ser Ala Leu Arg Leu Gly Asp Arg Ile Pro Phe Glu Gly Ala Asn Glu
            35                  40                  45


Pro Asp Gln Val Ser Leu Lys Glu Asp Ile Asp Met Leu Gln Asn Ala
        50                  55                  60


Leu Ala Glu Asn Asp Thr Pro Tyr Tyr Asp Val Ser Arg Asn Ala Arg
65                  70                  75                  80


His Ala Asp Gly Val Phe Thr Ser Asp Phe Ser Lys Leu Leu Gly Gln
                85                  90                  95


Leu Ser Ala Lys Lys Tyr Leu Glu Ser Leu Met Gly Lys Arg Val Ser
                100                 105                 110
```

Ser Asn Ile Ser Glu Asp Pro Val Pro Val Lys Arg His Ser Asp Ala
     115   120   125

Val Phe Thr Asp Asn Tyr Thr Arg Leu Arg Lys Gln Met Ala Val Lys
    130   135   140

Lys Tyr Leu Asn Ser Ile Leu Asn Gly Lys Arg Ser Ser Glu Gly Glu
145   150   155   160

Ser Pro Asp Phe Pro Glu Glu Leu Glu Lys
         165   170

<210> 18
<211> 1511
<212> DNA
<213> Homo Sapiens

<400> 18
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acagaaatgg acaccagaaa taaggcccag ctccttgtgc tcctgactct tctcagtgtg   120

ctcttctcac agacttcggc atggcctctt acagggcac cttctgctct caggttgggt   180

gacagaatac cctttgaggg agcaaatgaa cctgatcaag tttcattaaa agaagacatt   240

gacatgttgc aaaatgcatt agctgaaaat gacacaccct attatgatgt atccagaaat   300

gccaggcatg ctgatggagt tttcaccagt gacttcagta aactcttggg tcaactttct   360

gccaaaaagt accttgagtc tcttatggga aaacgtgtta gcagtaacat ctcagaagac   420

cctgtaccag tcaaacgtca ctcagatgca gtcttcactg acaactatac ccgccttaga   480

aaacaaatgg ctgtaaagaa atatttgaac tcaattctga atggaaagag gagcagtgag   540

ggagaatctc ccgactttcc agaagagtta gaaaaatgat gaaaaagacc tttggagcaa   600

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ttagattcta cataagtaat tcaagaaaac aacttcaata tccaaaccaa ataaaaatat   720

tgtgttgtga atgttgtgat gtattctagc taatgtaata actgtgaagt ttacattgta   780

aatagtattt gagagttcta aattttgtct ttaactcata aaaagcctgc aatttcatat   840

gctgtatatc ctttctaaca aaaaaatata ttttaatgat aagtaatgct aggttaatcc   900

aattatatga acgtttttg gaagagtagt aatagagcaa aattgatgtg tttatttata   960

gagtgtactt aactattcag gagagtagaa cagataatca gtgtgtctaa atttgaatgt   1020

taagcagatg gaatgctgtg ttaaataaac ctcaaaatgt ctaagatagt aacaatgaag   1080

ataaaaagac attcttccaa aaagattttc agaaaatatt atgtgtttcc atattttata   1140

ggcaaccttt atttttaatg gtgtttaaa aaatctcaaa tttggattgc taatcaccaa   1200

aggctctctc ctgatagtct ttcagttaag gagaacgacc cctgcttctg acactgaaac   1260

ttcccttttct gcttgtgtta agtatgtgta aaatgtgaag tgaatgaaac actcagttgt   1320

tcaataataa atattttgc cataatgact cagaatattg ctttggtcat atgagcttcc   1380

ttctgtgaaa tacattttgg agacacaact attttttccaa aataatttta agaaatcaaa   1440

gagagaaaat aaagaccttg cttatgattg cagataaaaa aaaaaaaaaa aaaaaaaaaa   1500

aaaaaaaaaa a   1511

<210>   19
<211>   438
<212>   PRT
<213>   Homo Sapiens

<400>   19

Met Arg Thr Leu Leu Pro Pro Ala Leu Leu Thr Cys Trp Leu Leu Ala
1   5   10   15

Pro Val Asn Ser Ile His Pro Glu Cys Arg Phe His Leu Glu Ile Gln
                20   25   30

Glu Glu Glu Thr Lys Cys Thr Glu Leu Leu Arg Ser Gln Thr Glu Lys
            35   40   45

His Lys Ala Cys Ser Gly Val Trp Asp Asn Ile Thr Cys Trp Arg Pro
        50   55   60

Ala Asn Val Gly Glu Thr Val Thr Val Pro Cys Pro Lys Val Phe Ser
65   70   75   80

Asn Phe Tyr Ser Lys Ala Gly Asn Ile Ser Lys Asn Cys Thr Ser Asp
                85   90   95

Gly Trp Ser Glu Thr Phe Pro Asp Phe Val Asp Ala Cys Gly Tyr Ser
            100   105   110

Asp Pro Glu Asp Glu Ser Lys Ile Thr Phe Tyr Ile Leu Val Lys Ala
            115   120   125

Ile Tyr Thr Leu Gly Tyr Ser Val Ser Leu Met Ser Leu Ala Thr Gly
        130   135   140

Ser Ile Ile Leu Cys Leu Phe Arg Lys Leu His Cys Thr Arg Asn Tyr
145   150   155   160

Ile His Leu Asn Leu Phe Leu Ser Phe Ile Leu Arg Ala Ile Ser Val
                165   170   175

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Leu Val Lys Asp Asp Val Leu Tyr Ser Ser Ser Gly Thr Leu His Cys
        180   185   190

Pro Asp Gln Pro Ser Ser Trp Val Gly Cys Lys Leu Ser Leu Val Phe
        195   200   205

Leu Gln Tyr Cys Ile Met Ala Asn Phe Phe Trp Leu Leu Val Glu Gly
    210   215   220

Leu Tyr Leu His Thr Leu Leu Val Ala Met Leu Pro Pro Arg Arg Cys
225   230   235   240

Phe Leu Ala Tyr Leu Leu Ile Gly Trp Gly Leu Pro Thr Val Cys Ile
            245   250   255

Gly Ala Trp Thr Ala Ala Arg Leu Tyr Leu Glu Asp Thr Gly Cys Trp
        260   265   270

Asp Thr Asn Asp His Ser Val Pro Trp Trp Val Ile Arg Ile Pro Ile
        275   280   285

Leu Ile Ser Ile Ile Val Asn Phe Val Leu Phe Ile Ser Ile Ile Arg
    290   295   300

Ile Leu Leu Gln Lys Leu Thr Ser Pro Asp Val Gly Gly Asn Asp Gln
305   310   315   320

Ser Gln Tyr Lys Arg Leu Ala Lys Ser Thr Leu Leu Leu Ile Pro Leu
            325   330   335

Phe Gly Val His Tyr Met Val Phe Ala Val Phe Pro Ile Ser Ile Ser
            340   345   350

Ser Lys Tyr Gln Ile Leu Phe Glu Leu Cys Leu Gly Ser Phe Gln Gly
        355   360   365

Leu Val Val Ala Val Leu Tyr Cys Phe Leu Asn Ser Glu Val Gln Cys
    370   375   380

Glu Leu Lys Arg Lys Trp Arg Ser Arg Cys Pro Thr Pro Ser Ala Ser
385   390   395   400

Arg Asp Tyr Arg Val Cys Gly Ser Ser Phe Ser His Asn Gly Ser Glu
            405   410   415

Gly Ala Leu Gln Phe His Arg Ala Ser Arg Ala Gln Ser Phe Leu Gln
        420   425   430

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Thr Glu Thr Ser Val Ile
        435

<210> 20
<211> 1640
<212> DNA
<213> Homo Sapiens

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ccactaaacc ccatacctgg                                               1640
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